

Federal Register

**Friday
September 29, 1989**

Part V

Department of Transportation

**Research and Special Programs
Administration**

**49 CFR Part 177
Direct Route Transportation of
Radioactive Materials; Proposed Rule**

DEPARTMENT OF TRANSPORTATION**Research and Special Programs
Administration****49 CFR Part 177****[Docket No. HM-164C; Notice No. 89-7]****RIN 2137-AB59****Direct Route Transportation of
Radioactive Materials****AGENCY:** Research and Special Programs Administration (RSPA), Department of Transportation (DOT).**ACTION:** Notice of proposed rulemaking.

SUMMARY: RSPA proposes to amend 49 CFR 177.825 to require that motor carriers of highway route controlled quantity (HRCQ) radioactive materials transport those materials directly from pickup points to preferred routes and directly from preferred routes to delivery points using shortest distance criteria. Other changes are proposed to clarify the requirements of that section.

DATE: Comments must be received on or before December 28, 1989.

ADDRESS: Address comments to the Dockets Unit, Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590. Comments should identify the docket and notice number and be submitted in five copies. Persons wishing to receive confirmation of receipt of their comments should include a self-addressed stamped post card. The Dockets Unit is located in Room 8419 of the Nassif Building, 400 Seventh Street, SW., Washington, DC 20590. Public Dockets may be reviewed between the hours of 8:30 a.m. and 5:00 p.m. Monday through Friday except on Federal holidays.

FOR FURTHER INFORMATION CONTACT: Edward H. Bonekemper, III, Senior Attorney, Office of the Chief Counsel, Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590, (202) 366-4362.

SUPPLEMENTARY INFORMATION:**Background**

Section 177.825 of 49 CFR provides routing requirements for the highway

transportation of radioactive materials. Paragraph (a) requires that placarded radioactive materials shipments, other than shipments of HRCQ packages, be transported on routes that minimize radiological risk and sets forth criteria for consideration in making risk minimization determinations.

In this notice, it is propose to revise paragraph (a) to clarify existing requirements and eliminate ambiguities. The three explicit duties imposed on operators of motor vehicles carrying radioactive materials for which placards are required would be numbered and listed in a new paragraph (a). The third of the three operator duties would be clarified by removing the word "general" from the requirement that carriers "shall indicate the general route to be taken"; because the word "general" is vague and undermines the requirement. A reference to part 172 for placarding requirements would be added. The last sentence of the introductory text of paragraph (a) would be amended to refer to the "requirements" of paragraph (a) instead of the "requirement" of paragraph (a). Paragraph (a)(2) of § 177.825 would be revised by removing the phrase "on a preferred highway" because it is redundant.

Paragraph (b) of § 177.825 requires that shipments of HRCQ packages be transported over "preferred routes selected to reduce time in transit" except that an Interstate System bypass or beltway around a city must be used when available. "Preferred routes" consist of Interstate System highways for which alternative routes have not been designated by a State and State-designated routes. Additional language is being proposed to indicate more clearly than the present regulations that preferred routes may be designated by one or more states. The practices and standards by which a State routing agency determines a preferred route, as state in paragraph (b), would be expanded from two to three subparagraphs to improve overall readability.

Section 177.825(b)(2) authorizes deviations from a preferred route for emergency conditions, and non-emergency conditions such as those necessary for rest, fuel, and vehicle repair stops, "to the extent necessary to

pickup, deliver or transfer a highway route controlled quantity package of radioactive materials." It also provides that the general requirements of paragraph (a) apply when any of these deviations from a preferred route is authorized.

In a recent enforcement case involving these provisions, DOT's Chief Administrative Law judge (ALJ) ruled that § 177.825(b)(2) provides a carrier with broad discretion (within the parameters of § 177.825(a)) in selecting a route to carry HRCQ from a pickup point to a preferred route. This same discretion apparently applies to transportation between a preferred route and the delivery point because the ALJ stated: "there is no language in the regulation which imposes a mileage limitation on deviations from the preferred route for pickup and delivery purposes."

The effect of that ruling is to allow carriers to transport HRCQ for great distances on non-preferred routes. The intent of the requirements in § 177.825(b) is to restrict HRCQ transportation to preferred routes wherever possible, and to allow States the discretion to supplement or replace preferred routes by designating additional or alternate routes.

In order to enhance the effectiveness of the HRCQ transportation requirements in paragraph (b), RSPA is proposing that HRCQ carriers be required to select pickup and delivery routes to and from preferred routes using a shortest distance criterion. Once pickup and delivery routes are selected, carriers would revert to the existing criterion and operate over preferred routes selected to reduce time in transit. The proposed requirements would restrict HRCQ carrier discretion in selecting pickup and delivery routes to and from preferred routes. However, to the extent that a State or States determine that the shortest distance route to or from a preferred route is not desirable, a State or States may designate an alternative or additional preferred route that effectively specifies pickup and delivery routing. Further, it is proposed to eliminate references to "transfer", as the terms "pickup" and "delivery" encompass transfer operations.

The ALJ's opinion also stated that the phrase "selected to reduce time in transit" in paragraph (b) is ambiguous. The opinion states that this phrase might be a requirement imposed by a government agency upon a carrier or person operating an HRCQ-carrying vehicle, might be a direction to State authorities concerning how to select alternative routes, or might be merely an introduction to the bypass or beltway language immediately following that phrase. To eliminate any ambiguity, additional language is being proposed to indicate specifically that it is the carrier's responsibility to select those preferred routes that reduce time in transit.

The existing text in § 177.825(b) is not clear as to whether a State routing agency may designate a preferred route "in addition to", as well as "as an alternative to", one or more Interstate System highways. To eliminate any ambiguity, it is proposed to amend paragraph (b)(1)(ii) to provide that a State routing agency may designate a route as an alternative to, or in addition to, one or more Interstate System highways. Paragraph (b) would also be amended to indicate that the list of State-designated preferred routes is available from the RSPA Dockets Unit upon request.

To address the person operating the HRCQ-carrying motor vehicle rather than the motor vehicle itself, the phrase "a carrier, driver or other person operating a motor vehicle" would replace the term "motor vehicle" where appropriate in paragraph (b). RSPA also proposes to add the words "Interstate System" prior to "beltway" in the introductory text of paragraph (b) to make it clear that only Interstate System beltways, as well as Interstate System bypasses, around cities are required (and authorized) for use. The phrase "shall be used in place of a preferred route through a city, unless a State routing agency has designated an alternative route" would be added to the introductory text of paragraph (b) to acknowledge State routing agency selections of preferred routes which are not Interstate System beltways or Interstate System bypasses.

Editorial changes are proposed to the first sentence in paragraph (b) to identify the specific exceptions to the general requirement for using preferred routes. Also, editorial changes are proposed to the first and sixth sentences in paragraph (b) to enhance clarity and reduce usage of the passive voice.

Paragraphs (b)(2)(i) and (b)(2)(ii) would be revised to clarify the authorized deviations from a preferred route. They also would be expanded by

adding paragraph (b)(2)(iii) to authorize HRCQ carriers to deviate from required pickup and delivery routes in emergency situations and for necessary rest, fuel and motor vehicle repair stops.

Paragraph (b)(2)(iii) would characterize and clarify the provisions of paragraph (a) as "radiological risk minimization criteria". In the same vein, paragraph (b)(1)(i) would state specifically that the "State routing agency shall select routes to minimize radiological risk". This addition would apply the underlying principle of paragraph (a) to state designations under paragraph (b).

Comments are invited on the proposed changes and possible alternatives to them, such as the desirability or necessity of allowing carriers to deviate from the proposed shortest distance pickup and delivery route criterion under certain circumstances. Such a "permissible deviation" (PD) might improve the shipment safety of HRCQ packages, for example, where alternate pickup or delivery routes are not included in State-designated preferred routes. A PD could allow carriers to select an alternative to, or make a limited detour off, shortest distance (base) pickup or delivery routes in order to reduce HRCQ transportation risks and costs.

DOT places the authority to make local HRCQ routing decisions with State routing authorities. To date, Arkansas, Colorado, Iowa, Kentucky, Nebraska, Tennessee, and Virginia have registered State-designated preferred routes in the RSPA Registry of State-designated Routes. Another seven States have not designated alternate preferred routes but have identified the Interstate System highways as routes of choice. The inclusion of a PD in conjunction with the shortest-distance criterion for pickups and deliveries might improve HRCQ shipment safety for all States.

This notice of proposed rulemaking would require carriers to use shortest-distance criterion for pickup and delivery of highway route controlled quantity packages of radioactive materials. A PD would permit carriers to deviate from the shortest-distance criterion when circumstances dictate. A PD would reflect radiological risk minimization criteria, including consideration of available information on accident rates, transit time population density and activities, and the time of day and the day of week during which transportation will occur. The following examples provide two possible methods for determining the length of a PD.

Two PD calculation methods, I and II, that could be used as a means to

alleviate two circumstances where the shortest-distance criterion may preclude HRCQ carriers from selecting the safest overall shipment routes are discussed below. In cases where use of either PD calculation method would increase HRCQ shipment safety, carriers would be permitted to select the method that results in the longer PD. The longer PD would reflect a greater increase in shipment safety, because the length of the PD would be directly related to a reduction in the risks associated with the shipment of HRCQ packages. The following two examples illustrate the problems solved and means of solution using PD calculation methods I and II, respectively.

Method I would enable an HRCQ carrier to avoid a base pickup or delivery route that requires the carrier to select an excessively time-consuming shipment route. Method I would permit a carrier to select either an alternate pickup or delivery route or add mileage to the base route in order to facilitate selection of a preferred route with a shorter transit time, and thereby reduce the overall transit time of the HRCQ shipment.

The method I PD would begin with the shortest-distance pickup or delivery route that an HRCQ carrier would be required to select. The PD length would be determined incrementally by allowing the carrier to add one unit of distance (k) to the length of the shortest-distance pickup or delivery route for each minute eliminated from the preferred route segment of the HRCQ shipment. The value of k would equate the average marginal benefit from eliminating one minute of preferred route transit, with the average marginal cost of travelling one mile over a non-preferred route.

The following example illustrates the calculation of a PD using calculation method I, tentatively selecting $k=0.1$ miles/minute. In this example there are two non-preferred pickup Routes, A and B, that lead to two distinct preferred Routes, AI and BI, respectively. Both preferred Routes AI and BI lead directly to the final point of HRCQ shipment delivery. The shipment travels at an average speed of 30 miles per hour over non-preferred Routes A or B, and 60 miles per hour over preferred Routes AI or BI. If the base route is used, the carrier would travel 3 non-preferred route miles over Route A and 300 preferred route miles over Route AI. If the alternate route is used, the carrier would travel 10 non-preferred route miles over Route B and 180 preferred route miles over Route BI. The transit time of the overall base route (A plus

AI) is 306 minutes, which is 106 minutes (or approximately 35 percent) longer than the transit time (200 minutes) of the overall alternate route (B plus BI). This is a conservative estimate that does not include additional rest and fuel delays that might be required by longer transit times.

The three-mile length of pickup Route A constitutes the shortest distance to the nearest preferred route entry point; therefore, the proposed shortest distance criterion would require the HRCQ carrier to select Routes A and AI for transport. The inclusion of a PD, however, would give an HRCQ carrier the option to select the shorter overall Route B and BI, if the greater length of Route B could be justified through the PD calculation using method I. The PD calculation would involve three simple steps: First, the preferred route transit time of the alternate route would be subtracted from the preferred route transit time of the base route to determine the savings in preferred route transit time. In this example the 180 minute duration of alternate Route BI is subtracted from the 300 minute duration of base Route AI, to arrive at a preferred route transit time savings of 120 minutes. If k equals 0.1 miles/minute, then the next step would be to multiply the 120 minute savings times 0.1 miles/minute to arrive at a length of 12 miles. Finally, the carrier would add this 12 mile distance to the 3 mile length of the base pickup Route A to arrive at the PD length of 15 miles.

The carrier in this example would be allowed to access an alternate preferred route if its pickup route was shorter than or equal to the 15 mile length of the PD. In this example the 10 mile length of the alternate pickup Route B is less than the PD length of 15 miles. The carrier would be permitted to select alternate Route B in place of base Route A, and reduce the shipment's overall travel time by 106 minutes, through taking preferred Route BI in place of preferred Route AI.

Method II is a separate method for use in a different set of circumstances, where the safest pickup or delivery route is slightly longer than the shortest distance (base) pickup or delivery route. Method II would permit the HRCQ carrier to extend or replace the base pickup or delivery route, using § 177.825(a) criteria and pre-specified limits. A PD limit of 200% with a PD Factor of 2 is used on the basis of functional considerations. A PD limit of 200% would enable carriers to extend or replace the base pickup or delivery route, with an alternate one up to twice as long using § 177.825(a) safety criteria.

The following example pertains to the situation where there are two possible

delivery Routes, X or Y, that connect the nearest preferred route exit location to the point of shipment delivery. Route X is 12 miles long and passes through the middle of a densely-populated town that includes several traffic lights, heavy traffic, and dilapidated roads. Route Y is 20 miles long, consists of well-maintained roads, and passes through sparsely populated countryside. Route X is the base route and must be taken under the proposed shortest-distance criterion unless the longer Route Y is included in a State-designated preferred route.

Using method II, the PD would be derived by multiplying the PD Factor of 2 times the 12 mile length of the base Route X. The HRCQ carrier would be allowed to select a safer delivery route up to 24 miles long; therefore, the carrier would be permitted to select the 20 mile delivery route Y.

The examples above illustrate the types of permissible deviations which might be included in a final rule. The final rule might contain a more restrictive or less restrictive permissible deviation or none at all. RSPA requests comments and information on the factors (e.g., travel time, population density, road conditions, etc.), tolerances, and methodologies which might be used to calculate such permissible deviation in conjunction with shortest distance HRCQ pickup and delivery route.

In summary, RSPA requests comments concerning whether it should modify the shortest distance criterion proposed herein with some form of permissible deviation, and, if so, how that deviation should be determined. The final rule may or may not contain such a permissible deviation.

Administrative Notices

Based on available information concerning the size and nature of entities likely to be affected, I certify that this proposed regulation will not, if promulgated, have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. Also, in view of the type of changes, RSPA has further determined that this Notice: (1) is not "major" under Executive Order 12291; (2) is not "significant" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); (3) will not affect not-for-profit enterprises or small governmental jurisdictions and (4) does not require an environmental impact statement under the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*). A regulatory evaluation is available for review in the Dockets Unit.

I have reviewed this regulation in accordance with Executive Order 12812 ("Federalism"). It has no substantial direct effects on the States, on the current Federal-State relationship, or the current distribution of power and responsibilities among levels of government. Thus, this regulation contains no policies that have Federalism implications, as defined in Executive Order 12812, and no Federalism Assessment is required.

The following Federal Register Thesaurus of Indexing Terms apply to this notice of proposed rulemaking:

List of Subjects in 49 CFR Part 177

Hazardous materials transportation, Highway route controlled quantity, Radioactive materials, Routing, Shippers, Carriers.

In consideration of the foregoing, 49 CFR Part 177 would be amended as follows:

PART 177—CARRIAGE BY PUBLIC HIGHWAY

1. The authority citation for part 177 continues to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 49 CFR part 1, unless otherwise noted.

2. In § 177.825, paragraphs (a) and (b) would be revised to read as follows:

§ 177.825 Routing and training requirements for radioactive materials.

(a) Except as provided in paragraph (b) of this section, a carrier operating a motor vehicle that contains a radioactive material for which placarding is required under part 172 of this subchapter shall—

(1) Ensure that the motor vehicle is operated on routes that minimize radiological risk;

(2) In determining the level of radiological risk, consider available information on accident rates, transit time, population density and activities, and the time of day and the day of week during which transportation will occur; and

(3) Tell the driver the route to be taken and that the motor vehicle contains radioactive materials.

The requirements of this paragraph do not apply when there is only one practicable highway route available, considering operating necessity and safety; or the routing of the motor vehicle is subject to paragraph (b) of this section.

(b) Except as otherwise permitted in this paragraph and in paragraph (e) of this section, a carrier, driver or other person operating a motor vehicle containing a package of a highway route

fra
Th
be

controlled quantity of radioactive materials (HRCQ), as defined in § 173.403(1) of this subchapter, shall operate the motor vehicle only over preferred routes selected by the carrier to reduce time in transit over the preferred route segment of the trip, except that an Interstate System bypass or Interstate System beltway around a city, when available, shall be used in place of a preferred route through a city, unless State routing agency has designated an alternative route.

(1) A preferred route is either of both an Interstate System highway for which an alternative route is not designated by one or more State routing agencies as provided in this section or a State-designated route selected by one or more State routing agencies (see § 171.8 of this subchapter) in accordance with the following conditions:

(i) The State routing agency shall select routes to minimize radiological risk using "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials", or an equivalent routing analysis which adequately considers overall risk to the public. Designations must be preceded by substantive consultation with affected

local jurisdictions and with any other affected States to ensure consideration of all impacts and continuity of designated routes.

(ii) State routing agencies may designate preferred routes as an alternative to, or in addition to, one or more Interstate System highways, including an Interstate System bypass or an Interstate System beltway.

(iii) A State-designated route is not effective until the State gives written notice, by certified mail, return receipt requested, to, and receipt thereof is acknowledged by, the Dockets Unit (DHM-30), Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590 (Attention: Registry of State-designated Routes, Docket HM-164A). The Dockets Unit will provide a list of State-designated preferred routes upon request.

(2) A motor vehicle may be operated over a route, other than a preferred route, only under the following conditions:

(i) The deviation from the preferred route is necessary to pickup or deliver a highway route controlled quantity of package of radioactive materials, to make necessary rest, fuel or motor

vehicle repair stops, or because emergency conditions make continued use of the preferred route unsafe or impossible;

(ii) For pickup and delivery not over preferred routes, the route selected must be the shortest distance route from the pickup location to the nearest preferred route entry location, and the shortest distance route to the delivery location from the nearest preferred route exit location.

(iii) Deviations from preferred routes, or pickup or deliver routes other than preferred routes, which are necessary for rest, fuel or motor vehicle repair stops; or which are necessary because of emergency conditions, shall be made in accordance with the radiological risk minimization criteria of paragraph (a) of this section unless, due to emergency conditions, time does not permit use of those criteria.

* * * * *

Issued in Washington, DC on September 25, 1989, under authority delegated in 49 CFR part 106, Appendix A.

Alan I. Roberts,
Director, Office of Hazardous Materials
Transportation.

[FR Doc. 89-22987 Filed 9-28-89; 8:45 am]

BILLING CODE 4910-00-M

H)
thW
P